Remarks

Upon entry of the foregoing amendment, claims 1, 2, 4-8, and 10-26 are pending in the application, with claims 1, 16, and 23 being the independent claims. Claims 1, 6, 14-16, and 23 have been amended to further define features of the claimed invention. Claims 3 and 27 have been canceled without prejudice or disclaimer of the subject matter thereof These changes are believed to introduce no new matter, and their entry is respectfully requested.

Rejections Under 35 U.S.C. §103(a)

Rejection of Claims 1, 2-19, 21, 22, and 27

Claims 1, 2-19, 21, 22, and 27 have been rejected under 25 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,704,543 (Sharon et al) in view of U.S. Patent No. 6,965,655 (Barrett et al). This rejection is rendered moot with respect to canceled claims 3 and 27. The rejection is respectfully traversed with respect to the remaining claims for the following reasons.

Sharon et al describes a multi-beam satellite communications system for distributing information to user terminals located within a plurality of spot beams. The Examiner acknowledges that Sharon et al does not disclose a remote monitoring station for monitoring a copy (of the signal transmitted in the first beam). Indeed, this document is not at all concerned with monitoring transmission performance of a satellite as the present invention is.

The sections of Sharon et al cited by the Examiner (paragraph 19, lines 5 – 8, paragraph 63 and Figures 4 and 10) merely states that a GEO satellite may broadcast in multiple spot beams. Examples of how the satellite system operates are discussed at paragraph 57, Figure 7 and paragraph 59, Figure 8 (also cited by the Examiner).

Figure 7 illustrates the satellite system operating in an intra-spot beam mode. Under this mode, if a ground terminal (user terminal) in a first spot beam wishes to communicate with a ground terminal in a second spot beam, the first ground terminal transmits a signal to a satellite, which retransmits the signal to a hub within the first spot beam. The signal is then routed over a land-based, high-speed wide-area network to a hub in the spot beam. The hub transmits the signal to the satellite for retransmission to the ground terminal in the second beam.

It is doubtful whether the signal transmitted by the satellite to the ground terminal in the second spot beam is the same as (a copy of) the signal that the satellite transmits to the hub in the first spot beam. This depends on how the hub in the first spot beam and the hub in the second spot beam process the signal originated from the ground terminal in the first spot beam. Even if the signal transmitted by the satellite in the second spot beam is a copy of the signal transmitted by the satellite in the first spot beam, it is clear that the "copy" is transmitted in the second spot beam in a channel for user data transmission to user terminals in the second spot beam. This is in contrast to the claimed invention, where the copy is transmitted in a second beam, selected to contain a remote monitoring station, in a channel different from that used for user data transmission to user terminals in the second beam.

Figure 8 of Sharon et al illustrates the satellite system operating in an inter-spot beam configuration. Under this mode, a ground terminal in a first spot beam first transmits a signal to the GEO satellite, which retransmits the signal to a hub located in the first spot beam. The hub in the first spot beam then determines the appropriate hub (a hub in a second spot beam) to which to route the signal, processes the signal accordingly (i.e. hiding routing information to the signal), and then transmits the processed signal to the satellite. The satellite then transmits the signal to the hub located within the second spot beam, which subsequently transmits the signal to the ground terminal in the second spot beam.

Again it is not clear whether the signal transmitted from the satellite to the hub in the second beam is identical to (a copy of) the signal transmitted from the satellite to the hub in the first spot beam. This depends on how the hub in the first spot beam and the satellite process the signal originate from the ground terminal in the first spot beam. Nonetheless, it is clear that what is transmitted by the satellite in this manner is user data that the ground terminal in the first beam wishes to transmit to the ground terminal in the second beam. Accordingly, the signal is transmitted in a channel for user data transmission. This too is in contrast to the claimed invention, where the copy is transmitted in a second beam, selected to contain a remote monitoring station, in a channel different from that used for user data transmission to user terminals in the second beam.

The Examiner refers to various parts of Barrett (i.e. column 2, lines 32 to 55, column 3, lines 10 to 18, lines 43 to 47, column 4, lines 5 to 11 and Figures 1 to 3) and alleges that the combination of Sharon et al. and Barrett renders the claimed subject-matter obvious. The Applicant respectfully disagrees.

Column 2, lines 32 to 55, describes monitoring of outgoing signals (i.e. uplink signals). This is irrelevant to the claimed invention, which is concerned with monitoring downlink transmission performance of a satellite.

The remaining sections cited by the Examiner mention a signal strength meter for measuring the strength of signals transmitted to the area where the signal strength meter is located. This arrangement is only suitable for monitoring signal strengths locally. A signal strength measurement derived in one spot beam cannot be used to assess signal strength in other beams. If the signal strength in multiple areas needs to be monitored, each of the areas would need to have a signal strength meter located within it.

Contrary to the Examiner's allegation, a person of ordinary skill in the art would not be able to combine the teaching of Sharon et al and that of Barrett meaningfully to arrive at the claimed invention. A combination of these two documents would, at most, result in a system wherein a signal strength meter is located in every spot beam for monitoring signal strengths of signals transmitted in respective spot beams.

Furthermore, neither Sharon et al nor Barrett teaches or suggests the feature that the copy of the signal, that is transmitted in a first beam, is transmitted in the second beam in a channel different from that used for user data transmission to user terminals in the second beam. By having this feature, the claimed method allows a remote monitoring station in the second beam to receive and monitor the copy without

introducing interference for normal user data transmission to user terminals in the second beam.

For the foregoing reasons, it is clear that neither Sharon et al nor Barrett et al, considered alone or in any rational combination, teaches or suggest features of the herein claimed invention. Reconsideration and withdrawal of the rejection of claims 1, 2, 4-19, 21, 22, and 27 is respectfully requested.

Rejection of Claims 2, 20, and 23

Claims 2, 20, and 23 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Sharon et al and Barrett et al in view of U.S. Published Application No. 2003/0052819 (Jacomb-Hood et al). This ground of rejection is respectfully traversed for the following reasons.

Jacomb-Hood et al does not teach or suggest remote monitoring of satellite transmission,, let alone the specific features of configuring a satellite to transmit a copy of a signal (transmitted in a first beam) in a second beam selected to contain a remote monitoring station for monitoring the copy, wherein the copy is transmitted in the second beam in a channel different from that used for user data transmission to user terminals in the second beam. Jacomb-Hood et al adds nothing to the teachings of Sharon et al and Barrett et al that would overcome the deficiencies of those references with respect to the herein claimed invention.

For the foregoing reasons, reconsideration and withdrawal of the rejection of claims 2, 20, and 23 is respectfully requested.

Rejection of Claims 24-26

Claims 24-26 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Sharon et al and Barrett et al in view of U.S. Published Application No. 2007/0223403 (Furuskar et al). This ground of rejection is respectfully traversed for the following reasons.

Furuskar et al is not a proper reference against the claims of the present application. The earliest effective date of Furuskar et al as a reference is July 1, 2004, the filing date of the PCT application. The present application claims priority to PCT/GB 2004/000226, filed January 16, 2004. Since the effective date of the present application precedes the effective date of Furuskar et al, Furuskar et al is not a proper reference and must be withdrawn.

For the foregoing reasons, reconsideration and withdrawal of the rejection of claims 24-26 is respectfully requested.

Conclusion

Prompt and favorable consideration of this Preliminary Amendment is respectfully requested. Applicant believes the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Edward J. Kessler
Attorney for Applicant
Registration No. 25,688

Date: November 25, 2008

1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600
907390.v1